

Listing of Claims

1. (Previously Presented) The staircase as recited in claim 21 wherein the horizontal glass member includes a plurality of glass sheets, one of the glass sheets having a first cut out at a first end of the horizontal glass member and a second cut out at a second end of the horizontal glass member, and wherein the second connection member includes a first insert disposed in the first cut out of the one glass sheet and a second insert disposed in the second cut out of the one glass sheet, the inserts being exposed at the ends of the horizontal glass member, the inserts providing a means for coupling the second interlocking portions to the horizontal glass member and wherein
a bonding layer is disposed between adjacent pairs of glass sheets, the bonding layer being configured to bond the glass sheets and the inserts together to form a laminated structure and to provide rigidity and stiffness to the laminated structure.
2. (Previously Presented) The staircase as recited in claim 1 wherein the glass sheets are annealed glass sheets.
3. (Previously Presented) The staircase as recited in claim 1 wherein the bonding layer is a polymer.
4. (Previously Presented) The staircase as recited in claim 1 wherein the bonding layer is Sentry Plus Ionplast Interlayer.
5. (Previously Presented) The staircase as recited in claim 1 wherein the glass sheets have a low concentration of iron.
6. (Previously Presented) The staircase as recited in claim 1 wherein the connector is formed from titanium.
7. (Cancelled)
8. (Currently Amended) The staircase as recited in claim 17 wherein the horizontal glass ~~tread member~~ is only supported at the first and second ends thereof by the first and second connection members.

9. (Previously Presented) The staircase as recited in claim 1 wherein the horizontal glass member spans from the first end to the second end a length of between about 7 and about 8 feet
10. (Previously Presented) The staircase as recited in claim 1 wherein the horizontal glass member supports loads from foot traffic of one or more persons.
11. (Cancelled)
12. (Previously Presented) The staircase as recited in claim 1 wherein the glass member includes four glass sheets and three bonding layers.
13. (Previously Presented) The staircase as recited in claim 1 wherein the one glass sheet includes two or more cut outs at the first end and two or more cutouts at the second end and further including inserts disposed in each of the cut outs of the one glass sheet, all of the inserts being exposed at the ends of the horizontal glass member, and providing a means for coupling the second interlocking portions to the horizontal glass member.
14. (Cancelled)
15. (Previously Presented) The staircase as recited in claim 17 wherein the horizontal glass treads of the staircase, comprise
a plurality of glass sheets that are bonded together to form a laminate structure, the laminate structure being configured to support human loads that are applied normal to a top surface of the laminate structure.
16. (Cancelled)
17. (Original) A staircase, comprising;
a pair of spaced apart vertical walls;
a plurality of horizontal glass treads positioned between the spaced apart vertical walls in a stepped apart relationship relative to one another, each of the glass treads having opposing ends;

a plurality of connection arrangements for fixing the opposing ends of the horizontal glass treads to the spaced apart vertical walls, each of the connection arrangements including a first connection member that is adapted to be fixed to the vertical wall and a second connection member adapted to be fixed to the end of the glass horizontal tread, the first connection member having a first interlocking portion, the second connection member having a second interlocking portion, the first and second interlocking portions being configured to engage one another so as to place the horizontal glass tread in a secure relationship relative to the vertical walls.

18. (Original) The staircase as recited in claim 17 wherein the vertical walls are formed from glass.

19. (Original) The staircase as recited in claim 18 wherein the vertical walls and horizontal glass treads are laminated glass structures.

20. (Original) The staircase as recited in claim 19 wherein the vertical walls are formed from a first laminated glass structure and wherein the horizontal glass tread is formed from a second laminated glass structure that is different than the first laminated glass structure.

21. (Original) The staircase as recited in claim 17 wherein the horizontal glass tread is a laminated glass structure, wherein the second connection member includes an insert that is disposed within the laminated glass structure at each of its opposing ends, and wherein the second interlocking portion is coupled to the insert.

22. (Currently Amended) The staircase as recited in claim 17 wherein the interlocking portions are configured to disengage from one another so as to place the horizontal glass tread in a removable relationship relative to the vertical walls.

23-25. (Cancelled)

26. (Previously Presented) The apparatus of claim 1 wherein the inserts are formed from titanium.

27. (Previously Presented) The apparatus of claim 26 wherein the first and second interlocking portions are formed from stainless steel.

28. (Cancelled)

29. (New) A glass staircase, comprising:

a support structure composed of spaced apart parallel walls, each of the spaced apart parallel walls including a plurality of side by side upwardly rising panels formed from glass and connected together; and

a plurality of upwardly rising stepped stairs, each stair only including a horizontal tread formed from glass, each horizontal tread partially overlapping a portion of a preceding horizontal tread such that there is a vertical open space between each consecutive stair, a first end of the horizontal treads being connected to a first wall of the spaced apart parallel walls, a second end of the horizontal treads being connected to a second wall of the spaced apart parallel walls, the horizontal treads only being supported at the first and second ends by the first and second walls.

30. (New) The staircase as recited in claim 29 further including a glass landing disposed in the middle of the of the upwardly rising stepped stairs.

31. (New) The staircase as recited in claim 29 wherein the ends of the panels of each of the spaced apart parallel walls are connected together with one or more connectors.

32. (New) The staircase as recited in claim 29 wherein the first and second ends of the horizontal treads include a pair of first connectors, wherein the panels of the spaced apart parallel walls include a pair of second connectors cooperatively positioned relative with the first connectors, and wherein the first and second connectors interlock with one another to secure the horizontal treads to the panels of the of the spaced apart parallel walls.

33. (New) The staircase as recited in claim 32 wherein the second connectors are interposed within the horizontal tread such that the second connectors and the horizontal treads are an integral unit.

34. (New) The staircase as recited in claim 32 wherein first and second connectors when interlocked form a gap between the horizontal tread and the panel.

35. (New) The staircase as recited in claim 17 wherein the second connection member is interposed within the glass horizontal tread such that the second connection member and the glass horizontal tread are an integral unit.